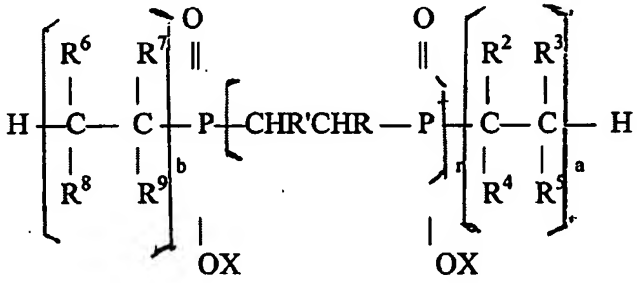
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-25 (Canceled)

26. (New) A polymer of formula (I)

(I) 

wherein:

R and R' are each independently hydrogen, a hydroxyl group, a carboxyl group, an alkyl, aryl or alkaryl group or a hydroxy - or carboxy substituted – alkyl, aryl or alkaryl group provided that R and R' together have a total of less than 23 carbon atoms and n is greater than 1;

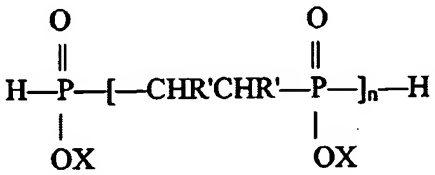
X is hydrogen or a cation or an alkyl group;

one of R^2, R^3, R^4, R^5 is a phosphonate or a sulphonate group and the remainder of R^2, R^3, R^4, R^5 are each independently hydrogen, alkyl, aryl, alkaryl, alkoxy, hydroxy, hydroxy or carboxy substituted alkyl, phosphonate or sulphonate groups and a is from 1 to 5;

R^6, R^7, R^8, R^9 are each independently hydrogen, alkyl, aryl, alkaryl, hydroxy, alkoxy, hydroxy or carboxy substituted alkyl or carboxy groups and b is from 5 to 200.

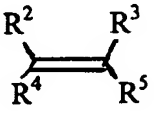
27. (New) A method of making the polymer as defined in Claim 26, comprising the step of reacting;

1) a compound of Formula (II):

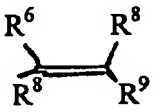
(II) 

wherein R, R', n and X each have the same significance as in Formula (I);

with 2) a monomer of Formula (III)

(III) 

in the presence of an initiator; and subsequently reacting the reaction product of 1) and 2) with a further monomer of Formula (IV):

(IV) 

wherein R^2, R^3, R^4, R^5, R^6, R^7, R^8 and R^9 each have the same significance as in Formula (I).

28. (New) A method as claimed in Claim 27 wherein the monomer (III) is selected from the group consisting of vinyl phosphonic acid (VPA), vinylidene-1, 1-diphosphonic acid (VDPA) and vinyl sulphonic acid (VSA).

29.(New) A method as claimed in Claim 28 wherein the initiator is sodium persulphate ($Na_2S_2O_8$).

30.(New) A method as claimed in Claim 28 wherein the initiator is hydrogen peroxide, an azo compound, an organic peroxide or a source of ultraviolet or ionising radiation.

31. (New) A method as claimed in Claim 28 wherein the monomer (IV) is an unsaturated carboxylic acid,.

32. (New) A method as claimed in Claim 31 wherein the monomer (IV) is acrylic acid, methacrylic acid, fumaric acid, maleic acid, itaconic acid, aconitic acid, mesaconic acid, citraconic acid, crotonic acid, isocrotonic acid, angelic acid, tiglic acid or their water soluble salts.

33. (New) A method as claimed in Claim 28 wherein the reaction is carried out at a temperature of between 60°C to 110°C, optionally 95°C.

34. (New) A method for the inhibition of scale in an aqueous system comprising the step of treating the system with a polymer as defined in claim 26.

35. (New) The method as claimed in Claim 34 wherein the aqueous based functional fluid is a boiler, a cooling system, a desalination plant, a geothermal water or an oilfield brine.

36. (New) A method for the treatment ofhydraulic fluids, lubricants, cutting fluids and oilfield drilling muds comprising the step of treating the system with a polymer as defined in claim 26. .

37. (New) A method for the squeeze treatment of oil wells comprising the step of treating the oil wells with a polymer as defined in claim 26.

38. (New) A method for inhibiting the formation of barium sulphate scale and/or calcium sulphate scale of fluids in oilfields comprising the step of treating the fluids with a polymer as defined in claim 26.

39. (New) A water treatment agent comprising a polymer as claimed in Claim 26 in conjunction with one or more other water treatment agents selected from the group consisting of surfactants; sequestrants; chelating agents; corrosion inhibitors; oxidising biocides; bleaches; foam controlling agents; buffers and dispersants.

40. (New) A corrosion-inhibiting pigment comprising a solid which has been prepared by reacting a concentrated aqueous solution of a water-soluble polymer as defined in Claim 26 with a base or salt of calcium, zinc, barium, aluminium or other polyvalent metal and precipitating a solid salt.

41. (New) A corrosion-inhibiting formulation comprising a pigment as claimed in Claim 40 which is dissolved or dispersed in an anti-corrosive paint, varnish, enamel, or lacquer.

42. (New) The corrosion-inhibiting formulation as claimed in Claim 41 further comprising a liquid vehicle, optionally being water.

43. (New) The corrosion-inhibiting formulation as claimed in Claim 41 wherein the formulation further comprises a volatile organic solvent selected from the group consisting of petroleum spirit, turpentine, ketones and esters and/or an aromatic hydrocarbon solvent, or a drying oil selected from the group consisting of linseed oil, soya oil, tung oil, and dehydrogenated castor oil.

44. (New) The corrosion-inhibiting formulation as claimed in Claim 41 wherein the formulation further comprises a resin selected from the group consisting of polyester, urea, polyurethane, vinyl chloride, vinyl acetate, phenolic and epoxy resins or a dispersed pigment.